# Glossary & Definitions

## A

**Alluvium**: A general term for all materials deposited by rivers or streams, including the sediments laid down in riverbeds, and floodplains.

**Alpine**: A mountainous or mountain-like environment or region.

**Aquifer**: Any underground permeable layer of rock or sediment that holds water and allows water to easily pass through.

**Artesian Water**: Groundwater that has sufficient pressure to rise above the aquifer containing it when penetrated by a well. It does not necessarily have to rise to the surface.

## B

**Basalt**: A fine-grained and usually dark-colored igneous rock that originates as surface flow of lava.

**Batholith**: A body of intrusive rock at least 40 square miles in area.

## C

**Capillary Action**: The movement of water within the spaces of a porous material (such as soil) due to the forces of adhesion, cohesion, and surface tension.

**Capillary Water**: Underground water that is held above the water table by capillary action.

**Chlorination**: The application of chlorine to water for the purpose of disinfection.

**Cobbles**: Rocks that are larger than pebbles and smaller than boulders, usually rounded while being carried by water, wind, or glaciers.

**Coliform Bacteria**: A type of bacteria that live in the digestive tracts of animals and humans but are also found in soils and water. The presence of coliform bacteria in certain quantities in water is used as an indicator of pollution.

**Cone of Depression**: A cone shaped area in the water table around a pumping well due to the well's influence on the flow of water in the aquifer.

**Conifer**: A tree that reproduces by means of cones and has needles instead of leaves.

**Confined Aquifer**: An aquifer with an overlying layer of impermeable or semi-impermeable material.

**Consumptive Use (of water)**: The water used for any purpose that does not return to its source, such as irrigation water lost to the atmosphere by evapotranspiration.

**Cordillera**: A group of mountain ranges including the valleys, plains, rivers, and lakes between the mountains.

**Correlation (geologic)**: The determination of the equivalence in geologic age and stratigraphic position of two formations or other stratigraphic units in separated areas. This can be based on paleontologic or physical evidence.

**Coulee**: A steep-sided gulch or water channel.

**Cubic Feet Per Second**: A unit of measurement for expressing the flow rate (discharge) of a moving body of water. One cubic foot per second is equal to a stream one foot deep, one foot wide and flowing at a velocity of one foot per second. One cubic foot of water is equal to 7.48 U.S. gallons.

## D

**Discharge**: The volume of water that passes through a given cross section of a stream, pipe, or even an entire drainage basin.

**Domestic Consumption (use)**: The quantity of water used for household use including drinking, washing, bathing and cooking.

## E

**Effluent**: Something that flows out, such as a liquid discharged as a waste; for example, the liquid waste that comes out of a sewage treatment plant.

**Effluent Stream**: A stream that receives all or part of its water from groundwater; also called a "gaining stream".

**Emplacement**: Development of rocks in a particular place.

**Evaporation**: The process by which water is changed from a liquid to a vapor. In hydrology, evaporation is vaporization that occurs at a temperature below the boiling point.

**Evapotranspiration**: Evaporation plus transpiration.

## F

**Fluvial**: Of or pertaining to rivers; produced by a rivers action, such as a fluvial plain. Also used to denote an organism that grows or lives in streams.

## G

**Gallons Per Minute**: A unit for expressing the rate of discharge, typically for the discharge of a well.

**Geophone**: A detector, placed on or in the ground in seismic work, which responds to the ground motion at its location.

**Glacier**: A mass of ice that is moving on land in a definite direction, originating from accumulated snow.

**Glaciofluvial**: Pertaining to streams flowing from glaciers or the deposits made by those streams.

**Grass Percolation Area (grassy swale)**: An area covered with grass or other vegetation used to catch and treat stormwater runoff by allowing the water to slowly percolate through the grass and soils.

**Groundwater**: Subsurface water found in the zone of saturation.

## H

**Hardness**: A measure of the amount of calcium, magnesium, and iron dissolved in the water.

**Hydraulic Conductivity**: A measurement of permeability.

**Hydrogeology**: The science of the interaction between geologic materials and water, especially groundwater.

**Hydrologic Cycle**: The endless interchange of water between sea, air, and land: includes evaporation from oceans, movement of water vapor, condensation, precipitation, surface runoff, and groundwater flow.

**Hydrology**: The science of the behavior of water in the atmosphere, on the earth's surface, and underground.

**Hydrothermal vein deposits**: A mineral deposit formed in cracks in rocks by the injection and cooling of hot liquid containing dissolved minerals.

## I

**Ice Age**: A geological period of widespread glacial activity when ice sheets covered large parts of the continents.

**Ice Dam**: A blockage of a river by ice.

**Igneous Rock**: A rock formed by the cooling of molten magma; for example, granite or basalt.

**Impervious**: Incapable of being penetrated by water.

**Impermeable Rock**: A rock layer made of materials such as clay or shale that does not allow water to pass through it.

**Infiltration**: In hydrology it is the movement of water into soil or porous rock.

**Influent Stream**: A stream contributing water to the zone of saturation thereby sustaining or increasing the water table; also called a "losing stream".

**Isoconcentration**: A line on a chart or map connecting places with the same concentration.

## L

**Lava**: Molten rock erupted on the surface of the earth by volcanic processes.

**Leachate**: A solution created by water dissolving chemicals while flowing through the soil or a landfill.

## M

**Metamorphism**: Transformation in the character of igneous or sedimentary rock, resulting in more compact metamorphic rock.

**Moraine**: Glacial drift deposited chiefly by direct glacial action, and having constructional topography independent of control by the surface on which the drift lies.

## N

**Nonpoint Source Pollution**: Pollution discharged over a wide area of land, not from one specific location.

## O

**Observation Well**: A well used to monitor ground water for water quality and/or changes in water levels.

**Outwash**: Neat layers of clay, sand, and gravel deposited by glacial meltwater.

## P

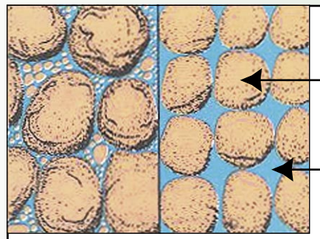
**Parts Per Million (ppm)**: The number of "parts" of a substance by weight per million parts. A commonly used unit used to express a pollutant's concentration in water. Equivalent to milligrams per liter (mg/L).

**Perched Water Table**: Groundwater separated from the underlying water table by an impermeable rock layer.

# Glossary & Definitions

**Percolation**: The downward movement of water through the pores or spaces of a rock or soil.

**Permeability**: The ability of rock or sediment to permit water to pass through it. It is dependent on the volume of the pores and openings and their interconnectedness.




The sample on the right has higher permeability because of better interconnections between pores

**Point Source Pollution**: Pollution discharged from a single source or point such as a pipe, ditch or sewers.

**Porosity**: In rock or soil, it is the ratio of the volume of openings in the material to the total volume of the material. In hydrology it is used to express the capacity of rock or soil to contain water and is expressed as a percentage.

**Precipitation**: In hydrology, any form of water that falls to the ground from the atmosphere, including rain, snow, ice, hail, drizzle, etc.

## R

**Recharge, groundwater**: The addition of water to the zone of saturation. Precipitation and its movement to the water table is an example.

**Recharge Area**: An area in which an aquifer receives water by the force of gravity moving water down from the surface.

**Remedial Action**: Actions for the purpose of repairing or remedying a condition or situation.

**Runoff**: That portion of precipitation or irrigation water that drains from an area as surface flow.

## S

**Sanitary Landfill**: A method of disposing of solid waste on land by spreading it into thin layers, compacting it and then covering it with soil.

**Sanitary Sewers**: A sewer system that carries domestic waste water as opposed to a sewer system that carries stormwater, or both domestic waste and stormwater.

**Saturated**: In hydrology, the condition in which all the pore spaces in a rock or soil layer are filled with water.

**Saturated Zone**: The top of the zone of saturation is the water table. A subsurface zone below which all rock pore space is filled with water.

**Sediment**: 1) any material carried in suspension by flowing water that ultimately will settle to the bottom of a body of water; 2) waterborne material deposited or accumulated on the bottom of waterways.

**Seepage**: Water that passes slowly through porous material.

**Seismic Energy**: Energy similar in character to that produced by an earthquake.

**Septic Tank**: Underground tanks that receive household wastewater. Bacterial action breaks down the organic matter in the tank. The effluent then flows out of the tank into the ground through drains.

**Sewage**: The total of organic waste and wastewater generated by residential and commercial establishments.

**Sewer, Combined**: A sewer that carries both wastewater and stormwater.

**Sole Source Aquifer**: An aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health.

**Solid Waste**: Unwanted or discarded material produced from agricultural, residential, commercial, municipal, and industrial sources.

**Spectral bands**: samples of the electromagnetic spectrum, the entire range of wavelengths or frequencies of electromagnetic radiation extending from gamma rays to the longest radio waves and including visible light.

**Static Water Level**: The level of water in a non-pumping or non-flowing well.

**Storm Drain (Storm Sewer)**: A drain (sewer) that carries storm waters and drainage, but excludes domestic and industrial wastewater.

**Surface Water**: All water on the land surface exposed to the atmosphere, includes oceans, lakes, streams, glaciers and snow.

## T

**TCE (Trichloroethylene)**: A solvent used in dry cleaning and metal degreasing that can contaminate groundwater when disposed of improperly.

**Till**: Unsorted and unlayered mixture of all sizes of sediment carried or deposited by glaciers.

**Toxicity**: The degree that something is poisonous.

**Transmissivity (groundwater)**: The capacity of an aquifer to transmit water through its entire saturated thickness.

**Transpiration**: The process by which water from a plant is evaporated to the atmosphere, usually through the leaf surface.

## U

**Unconfined Aquifer**: An aquifer without an impermeable layer on its upper surface; also called a “water table aquifer”.

**Underground Storage Tanks**: Tanks used to store fuels and other liquids underground. There are usually two or more such tanks at every gas station.

## V

**Vadose Zone**: The area above the zone of saturation that holds moisture; also called the “unsaturated zone”.

## W

**Wastewater**: Water discarded after use by human activities so that it must be treated before being returned to the environment.

**Water Budget**: A numeric evaluation of all sources of supply to and discharge from an aquifer or a drainage basin.

**Water Cycle**: The complete cycle of water from its evaporation from bodies of water, movement through the atmosphere, falling back to earth as precipitation, then movement over the earth’s surface, and under the earth’s surface as ground water, to its eventual discharge and evaporation again from bodies of water.

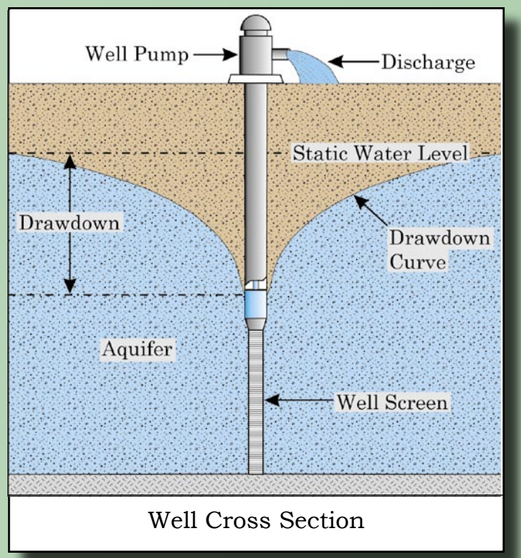
**Water Pollution**: The addition of sewage, industrial waste, or other harmful or objectionable material to water in concentrations or in sufficient quantities to result in measurable decline of water quality.

**Water Quality**: A term used to describe the characteristics of water with respect to its suitability for certain uses. This can include chemical, biological, and physical characteristics.

**Water Quality Standards**: The lawful limit of a pollutant in water that is established by a governmental authority as part of a program for water pollution prevention.

**Watershed**: An area of land from which water drains to a single point; in a natural basin, the area contributing flow to a given point on a stream.

**Water Table**: The upper limit of the part of soil or underlying rock material that is completely saturated with water; the top of the zone of saturation.




Well Cross Section

**Well**: A connection to an underground source of water made accessible by drilling or digging to below the water table.

**Wetlands**: An area of land in which the soils are saturated with water during a portion of the year, and that have vegetation that live in water, or need saturated soils at least for a portion of the year. They include bogs, swamps, marshes, and the shorelines of lakes, rivers and streams.

## Z

**Zone of Aeration**: The unsaturated zone between the land surface and the groundwater table; pores are filled with air and water.

**Zone of Saturation**: A subsurface zone in which all pore spaces are filled with ground water; below the groundwater table.